



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,184	03/11/2004	Mitsuo Nakagawa	14470.27US01	8623
7590 Hamre, Schumann, Mueller & Larson P.C. P.O. Box 2902-0902 Minneapolis, MN 55402			EXAMINER ROCCA, JOSEPH M	
			ART UNIT 3616	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/02/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/800,184	NAKAGAWA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Joseph Rocca	3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 04 December 2006.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-6 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-6 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: the replacement of the paragraph beginning at Page 2, Line 18 provided in applicants amendment of Dec. 4, 2006 is unclear. Lines 3 and 4 of this paragraph are grammatically unclear and furthermore it is not clear whether the v-shaped coupling member is the second coupling member as claimed. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1, 3, 5 and 6** are rejected under 35 U.S.C. 102(b) as being anticipated by Bria et al. (U.S. 2001/0027890 A1). As to **Claims 1 and 5**, Bria discloses a frame body for an off-road vehicle comprising: a frame, the frame being substantially rectangular when viewed from a side, the frame comprising:

two upper arm supporting areas (Fig. 6, Elements 104a and 104b), the upper arm supporting areas being configured to receive and support a wheel so that the wheel is swingable;

two lower arm supporting areas, the lower arm supporting areas being configured to receive and support a wheel so that the wheel is swingable (Fig. 6, Elements 102a and 102b),

a first coupling member disposed between and coupling together the two upper arm supporting areas (Figs. 4 and 6, Elements 100a and 100b),

a second coupling member disposed between and coupling together the two upper arm supporting areas, the second coupling member being a substantially inverted V-shape (Figs. 4, 6 and 6b, Elements 126a and 128a and 126b and 128b respectively) and extending above the first coupling member, the second coupling member being provided with a shock absorber supporting portion for supporting a shock absorber (Elements 124a and 124b; Pg. 4, Para. 0095), the shock absorber (Elements 125a) supporting portion being positioned at or near an apex portion of the second coupling member (See, Figs. 4 and 6, etc.), wherein said first and second coupling members form a substantially triangular truss structure (Figs. 4 and 6).

With respect to **Claim 3**, Bria further discloses the use of a frame body wherein a joint for connecting the upper main member to the frame body is provided in the area on or near the apex portion of the second coupling member (Figs. 4 and 6, joint between Portions 30 and 32, is on or near the apex portion of the second coupling member).

Regarding **Claim 6**, Bria further discloses a right side and a left side (Figs. 4, 6 and 6b), each of the right and left sides including a front vertical portion (Fig. 6, Elements 112a and 112b), an upper horizontal portion as the first coupling member

extending backward from an end of the front vertical portion (Portions 33a and 34a of Elements 33 and 34; Pg. 3, Para. 0076), a rear vertical portion extending from an end of the upper horizontal portion (Figs. 6 and 6b, Elements 40 [extending from rear portion of Elements 33 and 34 respectively]), and a lower horizontal portion extending forward from an end of the rear vertical portion (Fig. 6b, Elements 30 and 32) and connecting to another end of the front vertical portion.

**4. Claims 1, 3, 5 and 6** are rejected under 35 U.S.C. 102(e) as being anticipated by Ishii et al. (U.S. 2003/0001377 A1).

Regarding **Claims 1 and 5**, Ishii discloses a frame body for an off-road vehicle comprising: a frame (Fig. 2, Element 2), the frame being substantially rectangular when viewed from a side (Fig. 2), the frame comprising:

two upper arm supporting areas (Fig. 2, Elements 25), the upper arm supporting areas being configured to receive and support a wheel so that the wheel is swingable (Fig. 2, Elements 25);

two lower arm supporting areas, the lower arm supporting areas being configured to receive and support a wheel so that the wheel is swingable (Fig. 2, Elements 23),

a first coupling member disposed between and coupling together the two upper arm supporting areas (Fig. 2, Element 21),

a second coupling member disposed between and coupling together the two upper arm supporting areas, the second coupling member being a substantially inverted V-shape (See Fig. 2, inverted V-shape formed by Elements

19 and 20) and extending above the first coupling member, the second coupling member being provided with a shock absorber supporting portion for supporting a shock absorber (Fig. 1, Element 27), the shock absorber (Fig. 1, Element 26) supporting portion being positioned at or near an apex portion of the second coupling member (Figs. 1 and 2, Element 27), wherein said first and second coupling members form a substantially triangular truss structure (Fig. 2).

Regarding **Claim 3**, Ishii further discloses the use of a frame body wherein a joint for connecting the upper main member to the frame body is provided in the area on or near the apex portion of the second coupling member (Figs. 2 and 5, joint between Elements 19, 32, and 40).

With respect to **Claim 6**, Ishii further discloses a right side and a left side (See, Fig. 2), each of the right and left sides including a front vertical portion (Fig. 2, Element 17), an upper horizontal portion as the first coupling member extending backward from an end of the front vertical portion (Element 21), a rear vertical portion extending from an end of the upper horizontal portion (Fig. 2, Element 39 [vertical rear portion of 39]), and a lower horizontal portion extending forward from an end of the rear vertical portion (Fig. 2, Elements 18 and 39 [horizontal portion of 39, which is welded to 18]) and connecting to another end of the front vertical portion (Fig. 2, connection between Elements 18 and 17).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 2 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bria et al. (U.S. 2001/0027890 A1) in view of Mikasa (U.S. 6,612,593). With respect to Claim 2, as discussed above, Bria discloses the frame body of claims 1 and 3. Bria does not teach the frame body according to claims 1 and 3, wherein the upper arm supporting areas, the lower arm supporting areas, the first and second coupling members, the shock absorber supporting portion and the joint have been integrally formed by casting. However, Mikasa discloses a suspension structure formed by casting. (Col. 2, Lines 50-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the frame body disclosed by Bria such that the upper arm supporting areas, the lower arm supporting areas, the first and second coupling members, the shock absorber supporting portion and the joint were integrally formed by casting, in view of the teachings of Mikasa, so as to create a suspension system that is less expensive to manufacture and better adaptable for the requirements of mass production. Further, it must be noted that the use of casting is well known in the art of suspension manufacturing, mere use of a common and well known forming

method in an otherwise unpatentable device by the applicant of matter is *prima facie* obvious.

7. **Claims 2 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (U.S. 2003/0001377 A1) in view of Mikasa (U.S. 6,612,593). With respect to Claim 2, as discussed above, Ishii discloses the frame body of claims 1 and 3. Ishii does not teach the frame body according to claims 1 and 3, wherein the upper arm supporting areas, the lower arm supporting areas, the first and second coupling members, the shock absorber supporting portion and the joint have been integrally formed by casting. However, Mikasa discloses a suspension structure formed by casting. (Col. 2, Lines 50-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the frame body disclosed by Ishii such that the upper arm supporting areas, the lower arm supporting areas, the first and second coupling members, the shock absorber supporting portion and the joint were integrally formed by casting, in view of the teachings of Mikasa, so as to create a suspension system that is less expensive to manufacture and better adaptable for the requirements of mass production. Further, it must be noted that the use of casting is well known in the art of suspension manufacturing, mere use of a common and well known forming method in an otherwise unpatentable device by the applicant of matter is *prima facie* obvious.

***Response to Arguments***

8. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.
9. Applicant's arguments, see pages 1-3, filed on Dec. 4, 2006, with respect to the rejection(s) of claim(s) 1-5 under 35 U.S.C. 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the newly found prior art references.

***Examiner's Note***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. Kajikawa et al. (U.S. 6,412,856) discloses a body frame structure for a four-wheeled buggy, which may be of interest to applicant.
- b. Kirschenmann et al. (U.S. 5,630,622) discloses a structural frame utilizing cast members
- c. Halibrand et al. (U.S. 3,292,968) discloses a race car chassis.
- d. Davis et al. (U.S. App. 2006/0197331 A1) discloses a frame which may be of interest to applicant.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Rocca whose telephone number is 571-272-

5191. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Joseph Rocca  
Patent Examiner  
AU-3616

 2/11/07  
PAUL N. DICKSON  
SUPERVISORY PATENT EXAMINEE  
TECHNOLOGY CENTER 3600